YAKOVLEV, L.

An honorary prize is awarded to them. Voen.zhan. 38 no.5:14 My '62. (MIRA 15:5)

(Military education)

YAKOVLEV, L.A.

Device for charging storage batteries in traction substations.
(Elek.i tepl.tiaga no.8:38 Ag '57. (MLRA 10:8)

1.Zamestitel' nachal'nika Chulymskogo uchastka energosnabzheniya Tomskoy zheleznoy dorogi.
(Storage batteries)

YAKOVLEV, L.A.

Failure to comply with safety engineering requirements. Elek.i tepl.tiaga 6 no.12:41 D '62. (MIRA 16:2)

1. Nachal'nik Inskogo uchastka energosnabzheniya Zapadno-Sibirskoy dorogi.
(Electric railroads—Substations)

SOV/46-5-3-22/32

24(1), 24(6)

AUTHORS: Merkulov, L.G. and Yakovlev, L.A.

TITLE: Absorption of Ultrasonic Waves in Crystalline Quartz at Frequencies up to 1000 Mc/s (Pogloshcheniye ul'trazvukovykh voln v kristallicheskom kvartse na chastotakh do 1000 mggts)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 374-376 (USSR)

ABSTRACT: Employing a pulse technique the authors measured the coefficients of absorption of ultrasound in natural crystalline quartz between 10 and 1000 Mc/s at temperatures from -195°C to 200°C. Samples without visible defects were cut in such a way that their faces were perpendicular to the X, Y and Z axes with an error not greater than 3'; the opposite faces were parallel to within 5". A spectral analysis of one of the crystals yielded the following results: 0.005% of Mg, 0.008% of Al, 0.08% of Fe, 0.01% of Ca; no traces of Mn, Cu or Ti were found. The ultrasonic waves were excited using electrodes of 5-10 mm dimensions placed on the crystal surface and fed with pulses from a high-frequency generator. A strong electric field produced in this way at a crystal face induced vibrations of this face which were propagated as sound pulses into the sample. The exciting electrodes were used also as a receiver. The positions of the electrodes used to excite waves propagated

along the X and Y axes are shown in Fig 1. To excite longitudinal waves along the Z-axis it was necessary to employ the usual technique using acoustical piezo-vibrators; this limited the range of frequencies to 200 Mc/s. Figs 2, 3 and 4 show the measured values of the absorption coefficients for shear and longitudinal waves propagated along the X, Y and Z axes respectively. All the absorption coefficients were approximately proportional (except at the lowest frequencies) to the square of the frequency. The losses, represented by the absorption coefficients, can only be partially explained by thermo-elastic relaxation or by motions of dislocations in one atomic plane. Fig 5 shows the temperature dependence of the absorption coefficient for a shear wave propagated along the Y-axis at frequencies of 810 (curve a), 565 (curve б) and 85 (curve в) Mc/s. The weak dependence of the absorption coefficient α on temperature shows that the diffusion processes are not predominant in absorption of ultrasound in the range of temperatures employed. The temperature dependences show no definite relaxation maxima; in particular the relaxation peak reported by Bommel, Mason and Warner (Ref 1) at $\omega = 10^{13}\exp(-1300/RT)$ was not observed. The increase of absorption at low temperatures (Fig 5) was less than expected. The pulse technique was also used to find the velocity of propagation of ultrasound and

Absorption of Ultrasonic Waves in Crystalline Quartz at Frequencies up to 1000 Mc/s

elastic constants of quartz; the results agreed well with the published data (Ref 2). Up to 1000 Mc/s the values of the ultrasonic velocity were constant within the limits of the experimental error (~0.5%). Acknowledgment is made to S. Ya. Sokolov and G. Ye. Grachev of the Electroacoustics Laboratory, Leningrad Electrotechnical Institute, who are the originators of the excitation method described above. There are 5 figures and 2 English references.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V.I. Ul'yanova (Lenina). (Leningrad Electrotechnical Institute imeni V.I. Ul'yanov (Lenin)).

SUBMITTED: March 17, 1959

YAKOVLEV, L.A.

45

PHASE I BOOK EXPLOITATION SOV/5644

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov

Primeneniye ul' traakustiki k issledovaniyu veshchestva. vyp. 10. (Utilization of Ultrasonics for the Investigation of Materials. no. 10) Moscow, Izd-vo MOPI, 1960. 321 p. 1000 copies printed.

Eds.: V. F. Nozdrev, Professor, and B. B. Kudryavtsev, Professor.

PURPOSE: This book is intended for physicists and engineers interested in ultrasonic engineering.

COVERAGE: The collection of articles reviews present-day research in the application of ultrasound in medicine, chemistry, physics, metallurgy, ceramics, petroleum and mining engineering, defectoscopy, and other fields. No personalities are mentioned. References accompany individual articles.

Card 1/10

S/046/60/006/02/12/019
B014/B014

AUTHORS: Merkulov, L. G., Yakovlev, L. A.

TITLE: Ultrasonic Studies on Deformed NaCl Crystals

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 2, pp. 244-251

TEXT: In the experiments under consideration the authors carried out the same measurements and pretreatment of crystal samples as L. G. Merkulov. The crystals were deformed along the crystallographic direction {100}. The authors studied the dependence of sound absorption on the degree of deformation in the same direction at frequencies of 5-200 Mc/s. The dependence of the absorption coefficient on deformation is graphically represented for two crystals and frequencies of 16 and 80 Mc/s (Fig. 1). A linear dependence was found to exist. The authors examined the deformation dependence of absorption in a wide frequency range in order to clarify the mechanism of absorption. Results are graphically shown in Fig. 3. The resulting curves differ considerably from those of undeformed crystals, since a maximum of resonance appears which is flattened with increasing aging of the sample and is shifted toward

higher frequencies. Next, the authors give experimental results on the absorption of longitudinal and transverse waves in crystals through which ultrasonic waves pass in various directions. The results are given in a table and in the diagram of Fig. 4. Further, the changes of the absorption coefficient in aging for various plastic deformations are graphically shown in Fig. 5. A comparison is made between absorption in deformed and undeformed crystals, and the theory of dislocations is discussed, which offers an explanation of the dependence of absorption on the type of wave and on the direction of propagation. The behavior of NaCl crystals in absorption is described with the help of the theory of dislocations. Finally, a résumé is given, in which it is stated that the ultrasonic technique makes it possible to detect small changes in the crystal lattice. The authors point out that measurements of absorption and ultrasonic velocity will help to clarify the nature of dislocations and lattice defects. There are 8 figures, 1 table, and 9 references: 3 Soviet, 4 American, 1 German, and 1 British.

Ultrasonic Studies on Deformed NaCl Crystals

S/046/60/006/02/12/019
B014/B014

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut
(Leningrad Institute of Electrical Engineering)

SUBMITTED: February 4, 1960

VB

Card 3/3

35261
S/046/62/008/001/010/018
B125/B102

24,1800 (1063,1144,1147)

AUTHORS: Merkulov, L. G., Yakovlev, L. A.

TITLE: Peculiarities in the spreading and reflection of ultrasonic beams in crystals

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 1, 1962, 99 - 106

TEXT: Equations for calculating ultrasonic waves in piezoelectric crystals are derived by determining the group velocity. The reflection on a free boundary is studied. From the initial equations (that connect elastical and electrical quantities)

$$\left.\begin{aligned} \rho\cdot\ddot{U}_i &= \frac{\partial\sigma_{ik}}{\partial x_k} = c^E_{iklm}\cdot\frac{\partial u_{lm}}{\partial x_k} - e_{j,ik}\cdot\frac{\partial E_j}{\partial x_k}, \\ -D_p &= \varepsilon^u_{pq}\cdot E_q + 4\pi\cdot e_{p,rs}\cdot u_{rs}. \end{aligned}\right\} \qquad (3)$$

one obtains for the solution of the system of equations

$$\left\{\rho\cdot\omega^2\cdot\delta_{lm} - c^E_{iklm}\cdot q_l\cdot q_k - \frac{4\pi\,(e_{j,kl}\cdot q_j\cdot q_k)\,(e_{p,rm}\cdot q_p\cdot q_r)}{\varepsilon^r_{pq}\cdot q_p\cdot q_q}\right\} U_m = 0. \qquad (4)$$

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for the components of the displacement vector. It is assumed that div $\vec{D} = 0$ and also $\vec{E} = 0$; the wave is considered to be monochromatic. U_i denotes the components of the displacement vector in the elastic wave, u_{lm} the components of the deformation tensor, D_p the components of the electric induction vector, E_q the components of the electric fieldstrength, c^E_{iklm} the modulus of elasticity at a constant electric field strength, $e_{j,ik}$ the piezoelectric constants, ε^u_{pq} the components of the dielectric constant at constant deformation, ϱ the crystal density, l_1 the direction cosine of the wave vector. $q_1 = q \cdot l_1$ is valid. With

$$\Gamma_{im} = c^E_{iklm} \cdot q_l q_k + \frac{4\pi (e_{j,kl} \cdot q_j \cdot q_k) \cdot (e_{p,rm} \cdot q_p \cdot q_r)}{\varepsilon^r_{pq} \cdot q_q \cdot q_p}. \qquad (5)$$

system (4) only has solutions different from zero when $|\varrho\omega^2 \delta_{im} - \Gamma_{im}| = 0$ (6). The totality of q forms three surfaces of wave vectors. The velocity of sound in a crystal is changed by the piezoelectric correction. The direction of sound waves in crystals is given by

Card 2/5

$$L_i = \sum_{k=1}^{3} p_k^2 \cdot \left[\frac{1}{\alpha_k} \cdot \frac{\partial \alpha_k}{\partial l_i} \cdot (\rho \cdot v_{(n)}^2 - Q_{kk}) + \frac{\partial Q_{kk}}{\partial l_i} \right] = C_{ik} l_m P_k \cdot (P_i l_m + P_m \cdot l_i). \quad (10) \qquad (10)$$

and the velocity of sound in one beam is given by

$$v_n = (v_{n_1}^2 + v_{n_2}^2 + v_{n_3}^2)^{\frac{1}{2}} = \frac{1}{2\rho \cdot v_{(n)}} \left(\sum_{i=1}^{3} L_i^2 \right)^{\frac{1}{2}} \qquad (11).$$

The reflection of a spreading sound wave in a crystal is described by $\sin \alpha^o / v_{(n)}^o = \sin \alpha^j / v_{(n)}^j$ at the boundary surface. The indices o and j refer to the incident and reflected wave. The interrelation of the amplitudes is given by

$$c_{iklm} \cdot n_i \cdot \left[(q_m^o \cdot U_l^o + q_l^o \cdot U_m^o) \cdot e^{iq^o \cdot r} + \sum_j (q_m^j \cdot U_l^j + q_l^j \cdot U_m^j) \cdot e^{iq^j \cdot r} \right] = 0 \quad (15).$$

The sound field can be made visible in optically permeable crystals

(quartz) with the help of the shadow method. The index of refraction changes periodically due to the rotation of the Fresnel ellipsoid and the change of the ellipsoid axes in length. Longitudinal, quasi-longitudinal and quasitransversal waves always change the velocity of light, but purely transversal waves only in the case of certain symmetrical properties of the crystal and a specific direction of propagation of the sound beam. These special properties of ultrasonic waves are also noticeable when using a pulse method. There are 7 figures, 1 table, and 8 references: 4 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: F. E. Borgnis. Specific direction of longitudinal wave propagation in anisotropic media. Phys. Rev., 1955, 98, 1000 - 1005; M. J. P. Musgrave. On the propagation of elastic waves in aeolotropic media. I. General principles. Proc. Roy. Soc., 1954, A226, 339 - 355; H. Mueller. The intensity and polarization of the light diffracted by supersonic waves in solids. Phys. Rev., 1937, 52, 233; R. Bechmann. Elastic and piezo-electric constants of alpha-quartz. Phys. Rev., 1958, 110, 1060 - 1061.

Peculiarities in the spreading... S/046/62/008/001/010/018
B125/B102

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. Ul'yanova (Lenina) (Leningrad Electrotechnical Institute imeni Ul'yanov (Lenin))

SUBMITTED: April 3, 1961

IX

Card 5/5

24.1700

37532
S/046/62/008/002/007/016
B104/B138

AUTHORS: Merkulov, L. G., Yakovlev, L. A.

TITLE: Ultrasonic delay lines of crystals with ray deflection from the normal

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 2, 1962, 199 - 203

TEXT: An ultrasonic quartz delay line (Fig. 1) is studied which was cut out perpendicular to the crystallographic axes. The ultrasonic ray (transverse waves) shown in Fig. 1 is calculated with the aid of equations (L. D. Landau, Ye. M. Lifshits, Mekhanika sploshnykh sred - Continuum Mechanics, M., GITTL, 1953) which describe the propagation of sound waves in crystals:

$$\rho \cdot v_{(n)}^2 \cdot U_i = Q_{im} \cdot U_m, \quad (1)$$

$$|Q_{im} - \rho \cdot v_{(n)}^2 \cdot \delta_{im}| = 0, \quad (2)$$

$v_{(n)}$ is the velocity of the wave front, δ_{ik} is the Kronecker symbol. From the results (Table 1), the delay times were calculated for two different ray paths: theory: 37.4 and 105.4 μsec; experiment: 37.3 and 105 μsec. There are 3 figures and 2 tables.

Card 1/2

Ultrasonic delay lines of...

S/046/62/008/002/007/016
B104/B138

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Electrotechnical Institute imeni V. I. Ul'yanov (Lenin))

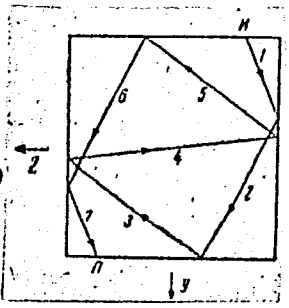
SUBMITTED: April 24, 1961

Table 1. Calculated ray parameters.

Legend: (1) ray number; (2) direction cosines of the wave normals; (3) direction cosines of the rays; (4) propagation rate; 10^{-5} cm/sec; (4a) in direction of the normal; (4b) in direction of the ray.

(1)	(2)	(3)	(4a)	(4b)
1	$l_1=1$, $l_3=0$	$\lambda_1=0{,}93$, $\lambda_3=-0{,}39$	3,92	4,20
2	$l_1=0{,}86$, $l_3=0{,}51$	$\lambda_1=0{,}87$, $\lambda_3=0{,}5$	3,36	3,36
3	$l_1=-0{,}63$, $l_3=0{,}78$	$\lambda_1=-0{,}67$, $\lambda_3=0{,}82$	5,06	5,07
4	$l_1=-0{,}48$, $l_3=-0{,}88$	$\lambda_1=-0{,}111$, $\lambda_3=-0{,}994$	3,85	4,18
5	$l_1=-0{,}63$, $l_3=0{,}78$	$\lambda_1=-0{,}57$, $\lambda_3=0{,}82$	5,06	5,07
6	$l_1=0{,}86$, $l_3=0{,}51$	$\lambda_1=0{,}87$, $\lambda_3=0{,}5$	3,36	3,36
7	$l_1=1$, $l_3=0$	$\lambda_1=0{,}92$, $\lambda_3=-0{,}39$	3,92	4,20

Fig. 1



Card 2/2

MERKULOV, L.G.; YAKOVLEV, L.A.

Characteristics of the propagation and reflection of ultrasonic rays in crystals. Akust.zhur. 8 no.1:99-106 '62. (MIRA 15:4)

1. Leningradskiy elektrotekhnicheskiy institut imeni Ul'yanova, (Lenina).

(Ultrasonic waves) (Crystals)

IVANOV, V. Ye.; MERKULOV, L. G.; YAKOVLEV, L. A.

Damped piezoelectric detector of an ultrasonic defectoscope.
Zav. lab. 28 no.12:1459-1464 '62. (MIRA 16:1)

1. Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova-Lenina.

(Ultrasonic testing)

ACCESSION NR: AP3005634 S/0046/63/009/003/0390/0392

AUTHORS: Shchukin, V. A.; Yakovlev, L. A.

TITLE: Effect of contact layers on the precision of measuring ultrasonic velocity in solids

SOURCE: Akusticheskiy zhurnal, v. 9, no. 3, 1963, 390-392

TOPIC TAGS: ultrasonic velocity, acoustical contact, contact layer, velocity determination, ultrasonic velocity determination, unevenness

ABSTRACT: In measuring the velocity of elastic waves through solids, an acoustical contact between sample and sound transmitter is achieved by means of an oily or adhesive layer. Because of the thinness of this layer, its effect is generally neglected. but this neglect may lead to considerable error. The authors have analyzed the systematic error arising from the presence of contact layers in the pulsing arrangement used for measuring velocity on the principal of direct transmission of sound. It was found that for steel samples, at a frequency of 1.54 megacycles and with transformer oil constituting the contact layer, the time lag was 0.065 microseconds. For quartz samples the lag was 0.032 microseconds. By using various frequencies the authors found that the equivalent thickness of the

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ACCESSION NR: AP3005634

contact layers does not depend on frequency. They found a single-valued relation between equivalent thickness and unevenness of the layer. By knowing the maximum value of unevenness, it is possible to compute the equivalent thickness and to introduce a correction. This permits a great increase in accuracy when measuring ultrasonic velocities. Similar results were obtained in studies on transverse waves. Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Institute of Electrical Engineering)

SUBMITTED: 24Apr62 DATE ACQ: 27Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 000

Card 2/2

L 38127-65 [illegible]

AUTHOR: Golubev, A. F.; Ivanov, V. Ye.; Yakovlev, L. A.

TITLE: Conversion of elastic energy into electricity upon reflection of an ultrasonic wave from a piezoelectric vibrator

SOURCE: Akusticheskiy zhurnal, v. 11, no. 1, 1965, 52-56

[illegible]

ABSTRACT: Expressions are obtained for the coefficient of reflection of ultrasound waves from a piezoelectric plate used as a receiver, with account taken of the con-

Card 1/2

L 38127-65
ACCESSION NR: AP5006179

displacements is obtained from the equations for the piezo-effect and from the equality of the elastic displacements and stresses on the interface between the

"We thank L. G. Merkulov for continuous interest in the work and for a discussion.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Electrotechnical Institute)

SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: GP

NR REF SOV: 001 OTHER: 001

Card 2/2

YAKOVLEV, I. A.

YAKOVLEV, I. A.
Eating of wool by camels as a result of salt hunger.

Source: Veterinariya; 4-5; April/May 1945 uncl
TAECON

YAKOVLEV, L. A.

Agriculture & Plant & Animal Industry

Brucellosis in the domestic animals and measures of combating it. Saratovskoe obl. gos. izd-vo, 1950.

9. Monthly List of Russian Accessions, Library of Congress, April 1952. Unclassified.

YAKOVLEV, L. A.

Bang's Disease.

Post-infectious immunity in spontaneous brucellosis of sheep. Veterinariia 29 no. 3:28-29 Mr '52.

Monthly List of Russian Accessions, Library of Congress, July 1952. UNCLASSIFIED.

SHUR, I.V., prof.; YAKOVLEV, L.A., prof.; KUKHARKOVA, L.L.; FREYDLIN, Ye.M., kand. veterin. nauk; PEROVA, P.V., kand. veterin. nauk; IL'YASHENKO, M.A., kand. veterin. nauk; KRASIL'NIKOV, R.I., starshiy nauchnyy sotrudnik; FITINGOF, S.N.; starshiy nauchnyy sotrudnik; TRUDOLYUBOVA, G.B., mladshiy nauchnyy sotrudnik; RUSANOV, R.S., mladshiy nauchnyy sotrudnik; KONUSPAYEVA, U.S., mladshiy nauchnyy sotrudnik; MITROFANOV, V.N., mladshiy nauchnyy sotrudnik; KAPERNAUMOVA, N.P., mladshiy nauchnyy sotrudnik.

Sanitary evaluation of meat from sheep with brucellosis. Veterinariia 38 no.11:60-65 N '61 (MIRA 18:1)

1. Rukovoditel' laboratorii mikrobiologii i veterinarno-sanitarnoy ekspertizy Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti (for Kukharkova).

YAKOVLEV L. A. (Professor, Doctor of Veterinary Sciences) and
NAZAROV G. S. (Doctor of Veterinary Sciences) (Reviewers)

"Veterinary Disinfection."

Veterinariya, Vol. 38, No. 12, December 1961, P. 72.

YAKOVLEV, L.A., prof.; USPENSKIY, V.D., prof.[deceased]; BOBROV, B.F., dotsent

Breaking down horse carcasses into standard cuts. Trudy SZVI 11: 209-212 '62. (MIRA 16:7)

(Horse meat) (Meat cutting)

YAKOVLEV, L.A., prof.; MITROFANOV, V.N., veter. vrach-bakteriolog;
KAPERNAUMOVA, N.P., veter. vrach-bakteriolog

Some data on the epizootiology of rabies in Saratov Province.
Trudy SZVI 11:213-215 '62. (MIRA 16:7)

(Saratov Province--Rabies)

KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik; FREYDLIN, Ye.M., kand.veter. nauk; PEROVA, P.V.; IL'YASHENKO, M.A.; TRUDOLYUBOVA, G.B., mladshiy nauchnyy sotrudnik; PLOTNIKOV, V.I.; KRASIL'NIKOV, R.I., starshiy nauchnyy sotrudnik; FITINGOV, S.N., starshiy nauchnyy sotrudnik; RUSANOV, R.S., mladshiy nauchnyy sotrudnik; KONUSPAYEVA, U.S., mladshiy nauchnyy sotrudnik; Prinimali uchastiye: YAKOVLEV, L.A., prof.; MITROFANOV, V.N.

Sanitary evaluation of the meat of sheep affected with brucellosis. Trudy VNIIMP no.14:87-95 '62. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Kukharkova, Freydlin, Perova, Il'yashenko, Trudolyubova, Plotnikov). 2. Kazakhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti (for Krasil'nikov, Fitingov, Rusanov, Konuspayeva). 3. Saratovskiy zooveterinarnyy institut (for Yakovlev). 4. Saratovskaya oblastnaya veterinarnaya bakteriologicheskaya laboratoriya (for Mitrofanov).

(Meat inspection) (Brucellosis in sheep)

YAKOVLEV, L. G.

"Automatic instrument controlled and regualted by gas" (Avtomaticheskie pribori kontrolya I regulirovaniya gaza), published by the State Scientific-Tech ical Publishing House for Machine Construction Literature, KIEV-MOSCOW 1950.

YAKOVLEV, Leonid Georgiyevich; GRISHUNIN, G.D., inzh., retsenzent; NIKIFOROVA, R.A., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn.red.

[Errors of checking and measuring instruments and pickups] Pogreshnosti kontrol'no-izmeritel'nykh priborov i datchikov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 154 p. (MIRA 14:6)

(Measuring instruments)

YAKOVLEV, Leonid Georgiyevich; GRISHUNIN, G.D., inzh., retsenzent; NIKIFOROVA, R.A., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Errors of checking and measuring instruments and pickups] Pogreshnosti kontrol'no-izmeritel'nykh priborov i datchikov. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1961. 154 p. (MIRA 14:8)

(Measuring instruments) (Transducers)

YAKOVLEV, L.G.

Calculation of phase integrals in the covariant formulation of the theory of multiple production of particles. Zhur.eksp.i teor.fiz. 37 no.4:1041-1045 O '59. (MIRA 13:5)

1. Uzbekskiy gosudarstvennyy universitet.
(Particles(Nuclear physics)

YAKOVLEV, L.G.; GRISHUNIN, G.D., inzh., retsenzent; DEMIDENKO, A.A., inzh., red.

[Level indicators; their design and use] Urovnemery; konstruktsii, raschet, primenenie. Moskva, Izd-vo "Mashinostroenie," 1964. 190 p. (MIRA 17:8)

YAKOVLEV, L. G.

USSR/Physics - Electrodynamics, nonlinear FD-1834

Card 1/1 Pub 146-19/25

Author : Yakovlev, L. G.

Title : The velocity of the wave front in nonlinear electrodynamics

Periodical : Zhur. eksp. i teor. fiz. 28, 246-248, February 1955

Abstract : In the works of D. I. Blokhintsev (DAN SSSR, 82, 553, 1952) and of Blokhintsev and V. V. Orlov (ZhETF, 25, 513, 1953) it was shown that in nonlinear electrodynamics and mesodynamics the propagation of a signal defined as the surface of a weak discontinuity in the field intensities can occur with a velocity greater than the velocity of light in a vacuum (the problem of the change in the velocity of propagation of light in nonlinear electrodynamics was considered for the first time by M. S. Svirskiy, Vestnik Mosk. Gos. Univ., 3, 43, 1951), both works employing the method of characteristics of a system of differential equations in partial derivatives. The author presents a simplification of this method and some further remarks on this important problem. The author notes that all of his results can be obtained by forming the difference during transition through the surface of discontinuity for the divergence of the energy-momentum tensor. He thanks Prof D. D. Ivanenko, who pointed out the importance of the subject.

Institution: Moscow State University

Submitted : June 3, 1954

YAKOVLEV, L. G.

Name: YAKOVLEV, L. G.

Dissertation: Multiple production of pi-mesons in collisions

Degree: Cand Phys-Math Sci

Defended at ~~Affiliation~~: Moscow State U imeni M. V. Lomonosov, Physics Faculty

Publication ~~Defense~~ Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 48, 1956

Yakovlev, L. G.

539.18 : 530.145

6204. MULTIPLE PRODUCTION OF MESONS IN COLLISIONS OF PARTICLES. L.G.Yakovlev.
Zh. éksper. teor. Fiz., ~~Vol. 30, No. 1,~~ 203-5 (1956). In Russian.

Perturbation calculations are carried out in standard field theory using PS mesons in PS and PV coupling. G.E.Brown

JAKOVLEV, L.G.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1375
AUTHOR JAKOVLEV, L.G.
TITLE On the Theory of the Plural Production of Mesons.
PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.1, 142-144 (1956)
Issued: 9 / 1956 reviewed: 10 / 1956

In view of the fact that computation to be carried out in consideration of all conservation theorems is very difficult, various methods of approximation are used. On this occasion the value $\varepsilon_n = \mathcal{E} - \sum_{i=1}^{n-1} m_i$ is assumed as the maximum limiting value for the energy of a particle. ($\mathcal{E}$ - total energy of the colliding particles, $\sum m_i$ - sum of the rest masses of all particle products with the exception of those given). Here it is shown that these values must diminish in the manner that follows from the conservation theorems of momenta and of energy. The computation of the maximum energy and the maximum momentum of each product leads to the determination of a hereby caused maximum. Computations are here carried out in the center of mass system. If it is assumed that, on the occasion of a collision, a total of n particles is created, then $\varepsilon_n + \sum_1^{n-1} \varepsilon_i = \mathcal{E}$, $\vec{k}_n + \sum_1^{n-1} \vec{k}_i = 0$. Here ε_i, $\vec{k}_i$ and v_i denote the total energy, momenta, and velocity of the i-th particle product. The corresponding quantities of the investigated particle product have the index n.
In the case of a maximum k_n the momenta of all (n-1) particles must be opposed

Žurn.eksp.i teor.fis, 31, fasc.1, 142-144 (1956) CARD 2 / 2 PA - 1375

to the direction of the momentum $\vec{k}_n$, and in this case it is true that $k_n = -\sum_1^{n-1} k_i$. and $v_n = k_n / \varepsilon_n = \sum_1^{n-1} k_i / (\varepsilon - \sum_1^{n-1} \varepsilon_i)$. Next, the secondary condition resulting from $\varepsilon_i^2 = m_i^2 + k_i^2$ for the determination of the maximum of the function $v_n(k_1, \ldots, k_{n-1})$ is given. Finally, $v_1 = v_2 = \ldots = v_{n-1} = v$ is found. It is then possible to consider the (n-1) particles as one single particle with the mass $M = \sum_1^{n-1} m_i$ and the velocity v. We further find:

$k_{n\,max} = \left[(\varepsilon^2 - M^2 + m_n^2)^2 - 4 m_n^2 \varepsilon^2 \right]^{1/2} / 2\varepsilon$, $\varepsilon_{n\,max} = \left[\varepsilon - (M^2 - m_n^2)/\varepsilon \right] / 2$

$v_{n\,max} = \left[(\varepsilon^2 - M^2 - m_n^2)^2 - 4 m_n^2 \varepsilon^2 \right]^{1/2} / (\varepsilon^2 - M^2 + m_n^2)$. R.M.Sternheimer computed the maximum recoil angle of the nucleon after collision: $tg\Theta_{max} = (1 - v_c^2)^{1/2} (v_c^2 / v_{max}^2 - 1)^{-1/2}$

Here Θ_{max} denotes the angle in the laboratory system of the coordinates, v_c - the velocity of the center of mass system in the laboratory system. The author considers Θ_{max} as a criterion for the identification of the particles. Apparently the existence of a maximum recoil angle of the nucleons on the occasion of integration of the angle Θ must be taken into account. - Three diagrams show the maximum energies of the pions produced on the occasion of π-N-collisions, N-N-collisions, and nucleon-antinucleon annihilation processes. This maximum energy diminishes with a growing number of produced pions.

INSTITUTION: Moscow State University.

YAKOVLEV, L. G. Cand Phys-Math Sci -- (diss) "Multiple birth of pi-mesons during collisions." Mos, 1958. 7 pp (Mos State Univ im M. V. Lomonosov, Phys Faculty), 150 copies (KL, 52-58, 98)

24(3) SOV/56-35-3-34/61

AUTHOR: Yakovlev, L. G.

TITLE: The Velocity of the Wave Front in Electrodynamics With Higher Derivatives (Skorost' fronta volny v elektrodinamike s vysshimi proizvodnymi)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 782-783 (USSR)

ABSTRACT: The velocity of the wave front in the electrodynamics of Maxwell (Maksvell)-Lorentz (Lorents) and in non-linear electrodynamics were investigated in some previous papers (Refs 1,2). In some of these papers the method developed by Levi-Civita (Levi-Chivita) was used which is the simplest and most descriptive. The author applies this method to the investigation of electrodynamics of higher derivatives. This paper deals only with differential equations of the fourth order. First, the general form of the equations of electrodynamics with higher derivatives is deduced by means of the Lagrange (Lagranzh) formalism. The Lagrangian L (density of the Lagrangian) is assumed to depend on the 2 invariants $I_1 = H_{ik} H_{ik}/2$,

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The Velocity of the Wave Front in Electrodynamics With Higher Derivatives

$I_2 = H_{ik,l} H_{ik,l}$ where H_{ik}, as usually, is defined by $H_{ik} = A_{k,i} - A_{i,k}$. This relation leads to the first groups of equations:

$H_{ik,l} + H_{kl,i} + H_{li,k} = 0$. The second group of equations is deduced by means of the variation equations

$\frac{\partial}{\partial x_k} \frac{\partial L}{\partial A_{i,k}} - \frac{\partial^2}{\partial x_k \partial x_l} \frac{\partial L}{\partial A_{i,kl}} = 0$. The (rather long) general expression for the second group of equations is given explicitly. The wave front is a surface of a weak discontinuity. In the given case, all the H_{ik} and their derivatives, with the exception of the highest ones (i.e. $H_{ik,lmn}$) are discontinuous. The author investigates a plane wave front. $H_{14}(x_3,x_4)$ and $H_{13}(x_3,x_4)$ are assumed to be different from zero. By some operations, the following equation is deduced:

$(1 + 2\alpha E_{x,t}^2)v^4 - 4\alpha E_{x,t} E_{x,z} v^3 - 2(1 + 2\alpha E_{x,t} H_{y,z} - 4\alpha E_{x,z}^2)v^2 -$

$- 8\alpha H_{x,z} H_{y,z} v + 1 + 2\alpha H_{y,z}^2 = 0$ where $\alpha = \mathcal{E}/B$. Thus, in the

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general case of electrodynamics with higher derivatives (just as in non-linear electrodynamics) there are 4 propagation velocities of the front. They are different from the velocity of light in a vacuum. A special case is $\epsilon = 0$ ($\alpha = 0$, that is $L = f(I_1) + bI_2/2$. (The electrodynamics of Bopp-Podol'skiy included). In this case $v = 1$, i.e. the velocity of light in vacuum, is found. The author thanks Professor D. Ivanenko for discussing the paper. There are 2 references, 1 of which is Soviet.

ASSOCIATION: Uzbekskiy gosudarstvennyy universitet (Uzbek State University)

SUBMITTED: April 7, 1958

Card 3/3

L 10036-63 EWT(1)/BDS/EEC(b)-2--AFFTC/ASD/ESD-3--IJP(C)

ACCESSION NR: AR3000349 S/0058/63/000/004/B008/B008

SOURCE: RZh. Fizika, Abs. 4B56

AUTHOR: Yakovlev, L. G.; Pardayev, A.

TITLE: Laws valid on the front of an electromagnetic wave

CITED SOURCE: Sb. Materialy 3-y Ob"yedin. nauchn. konferentsii uchenykh g. Samarkanda. Ser. Gumanitarn. i yestestv. n., Samarkand, Samarkandsk. un-t, 1961, 254

TOPIC TAGS: Electromagnetic waves, theory

TRANSLATION: General equations are obtained with the aid of a variational principle for the propagation of the front of an electromagnetic wave. In the case of a Lagrangian, L = L (I sub 1, I sub 2, I sub 3), where I sub 1 = - (1/4) H sub i sub k, I sub 2 = (1/4)H sub i sub k, sub l H sub i sub k, sub l and I sub 3 = (1/8) Epsilon sub i sub k sub l sub m H sub i sub k H sub l sub m are invariants. The Levi-Civita method is used to investigate the velocity of the

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front and the theories of Born, Born and Infeld, and Bopp-Podolsky. The possibility of the polarization of the wave by the field in vacuum is also considered.

DATE ACQ: 14May63 ENCL: 00 SUB CODE: PH

bm/Kar
Card 2/2

S/166/62/000/006/012/016
B125/B102

AUTHORS: Yakovlev, L. G., Pardayev, A.

TITLE: The properties of electromagnetic wave fronts

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1962, 92 - 100

TEXT: The general properties of electromagnetic wave fronts are studied theoretically. Proceeding from the general Lagrangian $L = L(I_1, I_2, I_3)$ by a variational method yields a set of equations for the free electromagnetic field containing many terms. The occurrence of $I_1 = -(1/4)H_{ik}H_{ik}$ in non-linear form, or of $I_3 = (1/8)(\varepsilon_{iklm}H_{ik}H_{lm})^2$, leads to non-linearities and hence to unusual phenomena at the electromagnetic wave front. ε_{iklm} is the Levi-Civita tensor density. The invariant $I_2 = -(1/4)H_{ik;l}H_{ik,l}$ and similar expressions lead to equations with higher derivatives and hence to wave fronts of variable velocity. The Levi-Civita method is very convenient

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The properties of electromagnetic ...

for investigating wave front phenomena without using a concrete Lagrangian; it is based on the assumption that the solutions of the electrodynamic equations are plane waves. Points in front of the wave front and infinitely near to it, and similar points behind it, are considered. The difference of their equations is determined, and limits taken. The only terms remaining are those with discontinuities. The limiting process $\Delta x_o \to 0$ gives rise to the relation $h_{ik\ldots0} = v h_{ik\ldots3}$. Combining this with $h_{ik\cdot l} + h_{kl\cdot i} + h_{li\cdot k} = 0$ yields $h_{10,0\cdot0} = v^3 h_{13,3\cdot3}$. The differences of the equations for the free field mentioned at the beginning are to be set up similarly. Any theory of wave front properties can be assigned to one of the following four classes: (because of restriction to weak discontinuities, the only free field terms remaining are those with higher derivatives): I. In the presence of I_2, $Bh_{ik,llk} - FH_{ik,l}H_{mn,p}h_{mn,plk} = 0$ (17) holds. In th absence of I_2, there are three possible results: II. If $L = L(I_1)$, then $Ah_{ik,k} - CH_{ik}H_{lm}h_{lm,k} = 0$; III. If $L = L(I_1, I_3)$, then

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$$Ah_{lk,k} - CH_{lk}H_{lm}h_{lm,k} - Ne_{lkrm}e_{tspq}(2H_{rm}H_{ts}h_{pq,k} + H_{ts}H_{pq}h_{rm,k}) + Re_{tspq}(e_{logn}H_{gn}H_{ts}H_{pq}H_{lk}h_{lo,k} + \frac{1}{2}e_{lkrm}H_{rm}H_{ts}H_{pq}H_{cd}h_{cd,k}) - \quad (19);$$

$$- Ue_{lkrm}e_{tspq}H_{rm}H_{ts}H_{pq}e_{logn}e_{bcdf}H_{gn}H_{bc}H_{df}h_{lo,k} = 0.$$

and IV. if L = L(I_3), $Ne_{lkrm}e_{tspq}(2H_{rm}H_{ts}h_{pq,k} + H_{ts}H_{pq}h_{rm,k}) +$

$$+ Ue_{lkrm}e_{tspq}H_{rm}H_{ts}H_{pq}e_{logn}e_{bcdf}H_{gn}H_{bc}H_{df}h_{lo,k} = 0. \quad (20).$$

Bopp-Podolski electrodynamics belongs to group I, Maxwell and Born mechanics to II, the Born-Infield theory and quantum field theory to III. There are no group IV theories, nor does this group satisfy the correspondence principle. Sommerfield's theory does not hold in any of the other three classes. There is a polarization effect in I and III, but not in II.

ASSOCIATION: Samarkandskiy gosuniversitet (Samarkand State University)

SUBMITTED: July 2, 1962

Card 3/3

YAKOVLEV, L.G.

Derivation of the quantum dispersion ratios of coordinates and momenta. Trudy UzGu no.117:31-32 '62. (MIRA 16:7)

(Quantum theory)

L 45826-65 EWT(d)/EWT(l)/EEC(m)/EPR/EWP(k)/EWP(h)/EWA(h)/EWA(d)/EWP(v)/EWP(l)
Po-1/Pq-4/Pf-4/Ps-4/Pl-4 WW

ACCESSION NR AM4047295 BOOK EXPLOITATION S/ 43
B+/

Yakovlev, L. G.

Level gauges (25) their construction, design and use (Urovnemery; konstruktsii, raschet, primeneniye), Moscow, Izd-vo "Mashinostroyeniye", 1964, 190 p. illus., biblio. 5,000 copies printed.

TOPIC TAGS: level gauge (14), automation (4)

PURPOSE AND COVERAGE: This book presents basic information on the design of mechanical, electromechanical, and electrical level gauges which determine the level of liquids and loose materials in industrial and transportation storage vessels. The book includes calculations of level gauges, circuits and calculations

[illegible] gauges.

TABLE OF CONTENTS [abridged]:

Introduction -- 3

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ACCESSION NR AM4047195

Ch. I. [illegible] problems of measurement parameters -- 6

[illegible]

Ch. III. Electromechanical level gauges -- 116

Ch. IV. [illegible] al level gauges -- [illegible]

SUBMITTED: [illegible] SUB CODE: EC, IE, PR

NR REF SOV: 014 OTHER: 000

TP

Card 2/2

USST

Change of the mineral composition of quartz veins by intrusions. I. I. Yakovlev, O. L. Kovaleva, and S. D. Shcr. *Zapiski Vsesoyuz. Mineralov. Obshchestva* 84, 70–82 (1955).—The contacts of a quartz diorite which is relatively high in K feldspar, with clayey, marly, and polymict sandy slates have the character of quartz-biotite-orthoclase hornfelses, in an aureole 10 to 15 m. in diameter. Pyrite and arsenopyrite, in lower degree sphalerite and galena, occur in these rocks in amts. of 2 to 3%. A very characteristic xenolithic structure is macroscopically described. The microscopic examn. shows all transitions from an original vein quartz to a wholly recrystd., mosaic-crystalloblastic hornfels with typical replacement pseudomorphs of pyrrhotite after pyrite and arsenopyrite. Biotite and hematite are typical contact-metamorphic recrystn. products; a radial-acicular zeolite (undetd., biaxial, neg.) also occurs. Cassiterite occurs in nodular aggregates up to 1 mm. in diam., also native Au, and galena (0.1 mm. in diam.) in which Sn was identified by spectral analysis. W. Eitel

SMIRNOV, F.L.; YAKOVLEV, L.I.

Germanite in ores of pyrite deposits in central Kazakhstan. Trudy Min.muz. no.10:180-184 '59. (MIRA 16:8)
(Kazakhstan--Germanite)

KRUT', I.V.; LYASHENKO, A.I.; YAKOVLEV, L.I.

Devonian age of the Karachay series in the Northern Caucasus. Dokl. AN SSSR 153 no.5:1142-1144 D '63. (MIRA 17:1)

1. TSentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov. Predstavleno akademikom D.V. Nalivkinym.

KRUT', I.V.; YAKOVLEV, L.I.

Regional zoning of pyrite mineralization in the Peredovoy Range of the Greater Caucasus. Dokl. AN SSSR 159 no.5:1031-1034 D '64 (MIRA 18:1)

1. TSentral'nyy nauchnoissledovatel'skiy gorno-razvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov. Predstavlen akademikom V.I. Smirnovym.

YAKOVLEV, L.I., inzh.

Air pipe assembly with use of "tselalit" glue. Sudostroenie 25 no.7:49-50 Jl '59. (MIRA 12:12)
(Marine pipe fitting)

YAKOVLEV, L.I.

Proletarian Solidarity of the Workers of Foreign Countries with the Peoples of Soviet Russia (1917-1922)

The following dissertations were defended in the Institute of Archeology, Candidate of Historical Sciences. (1962)

Vestnik Akad Nauk, No.4, 1963, pp. 119-145

KRUT', I.V.; YAKOVLEV, L.I.; KROPACHEV, S.M.; LYASHENKO, A.I.; SHARKOVA, T.T.

Stratigraphic position and structure of the Karashay series in the Northern Caucasus. Izv. AN SSSR. Ser. geol. 28 no.10: 49-59 O '63. (MIRA 16:11)

1. TSentral'nyy nauchno-issledovatel'skiy geologorazvedochnyy institut, Moskva.

YAKOVLEV, L.K.

BOLDYREV, V.V.; SAKOVICH, G.V.; YAKOVLEV, L.K.

Using the trituration method in the analysis of multimetallic ores. Soob.o nauch.rab.chl.VKHO no.3:31 '53. (MIRA 10:10)
(Ores--Analysis)

YAKOVLEV, L.K.

USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry. Catalysis, B-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61084

Author: Boldyrev, V. V., Yakovlev, L. K., Manyakhina, V. N.

Institution: None

Title: Influence of Preliminary Treatment on Velocity of Thermal Decomposition of Lead Oxalate

Original Periodical: Uch. zap. Tomskogo un-ta, 1955, No 26, 44-49

Abstract: Study by the gravimetric method of the decomposition of lead oxalate (I) at 350°. During the first 10 days following preparation velocity of decomposition of I decreases with increasing duration of storage of the preparation; according to roentgenographic data concurrently takes place an orderly arrangement of the lattice of I. Further aging of I does not affect the velocity of its thermal decomposition. Preliminary heating at 200°-250° and also irradiation with ultraviolet rays slows down thermal decomposition of I. Preliminary

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USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry. Catalysis, B-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61084

Abstract: treatment of I with hydrazine hydrate accelerates decomposition of I. Probably due to catalytic action of metal particles formed on partial reduction of I, and also due to disruptions produced in the lattice of I. Treatment with $AgNO_3$ and also mechanical mixing of I with Ag or Pb did not alter the velocity of decomposition of I.

Card 2/2

YAKOVLEV, L.K., LILEYEV, I.S.

Chemistry of processes taking place in the system $Na_2O - Al_2O_3 - SiO_2$ at sintering temperatures. Report No.1: Reaction of kyanite and soda. Izv.Sib.otd.AN SSSR no.5:64-74 '59.
(MIRA 12:10)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya Akademii nauk SSSR.
(Kyanite) (Soda)

YAKOVLEV, L.K.; LILEYEV, I.S.

Studying the chemistry of processes taking place in the system $Na_2O - Al_2O_3 - SiO_2$ at sintering temperatures. Izv. Sib. otd. AN SSSR no.8:62-75 '59. (MIRA 13:2)

1.Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR.
(Sintering)

YAKOVLEV, L. K., CAND CHEM SCI, "Study ~~INVESTIGATIONS~~ OF REACTIONS OCCURING IN THE SYSTEM $Na_2O - Al_2O_3 - SiO_2$ UNDER SINTERING TEMPERATURES." NOVOSIBIRSK, 1960. (ACAD SCI USSR. SIBERIAN DEPARTMENT. CHEM ~~AND~~ METALLURGY INST). (KL, 2-61, 200).

BERGER, A.S.; YAKOVLEV, L.K.

Thermographic characteristics of the NaA-type zeolites. Zhur.prikl. khim. 38 no.6:1240-1246 Je '65. (MIRA 18:10)

YAKOVLEV, L.K.

Synthesis and properties of dipotassium aluminosilicate.
Zhur.neorg.khim. 10 no.12:2687-2692 D '65.
(MIRA 19:1)

L 62139-65

ACCESSION NR: AP5015880 UR/0080/65/038/006/1240/1246
549.67

AUTHOR: Berger, A. S., Yakovlev, L. K.

TITLE: Thermographic characteristics of type NaA zeolites

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 6, 1965, 1240-1246

TOPIC TAGS: zeolite, carnegieite, nepheline, thermography

ABSTRACT: A study of the thermographic characteristics of synthetic zeolites of type NaA with [illegible] ratios $SiO_2:Al_2O_3$ = 2 and 1.8 and of the American zeolite 4A [illegible] thermal analysis [illegible] dehydration effect at [illegible] where the original zeolitic structure is preserved. (2) An exothermic effect at 700-800° caused by the breakdown of the structure of the dehydrated product with the formation of a [illegible] amorphous phase and associated with a marked decrease in the volume of the sample and a rise in its electrical conductivity, the process taking place in the region of this thermic effect probably belongs to the type of thermal transformations described by [illegible] (1961), (3) An exothermic effect at 900-1000° [illegible] the crystallization of carnegieite which [illegible]

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L 5199-65

ACCESSION NR: AP5015880

β-carnegieite on cooling this accounts for the presence of an exothermic effect at 620-676C [illegible] thermal analysis. The rate and extent of trans[illegible] The data obtained confirm the authors' [illegible] β-carnegieite has a stabilizing effect [illegible] preparation [illegible]

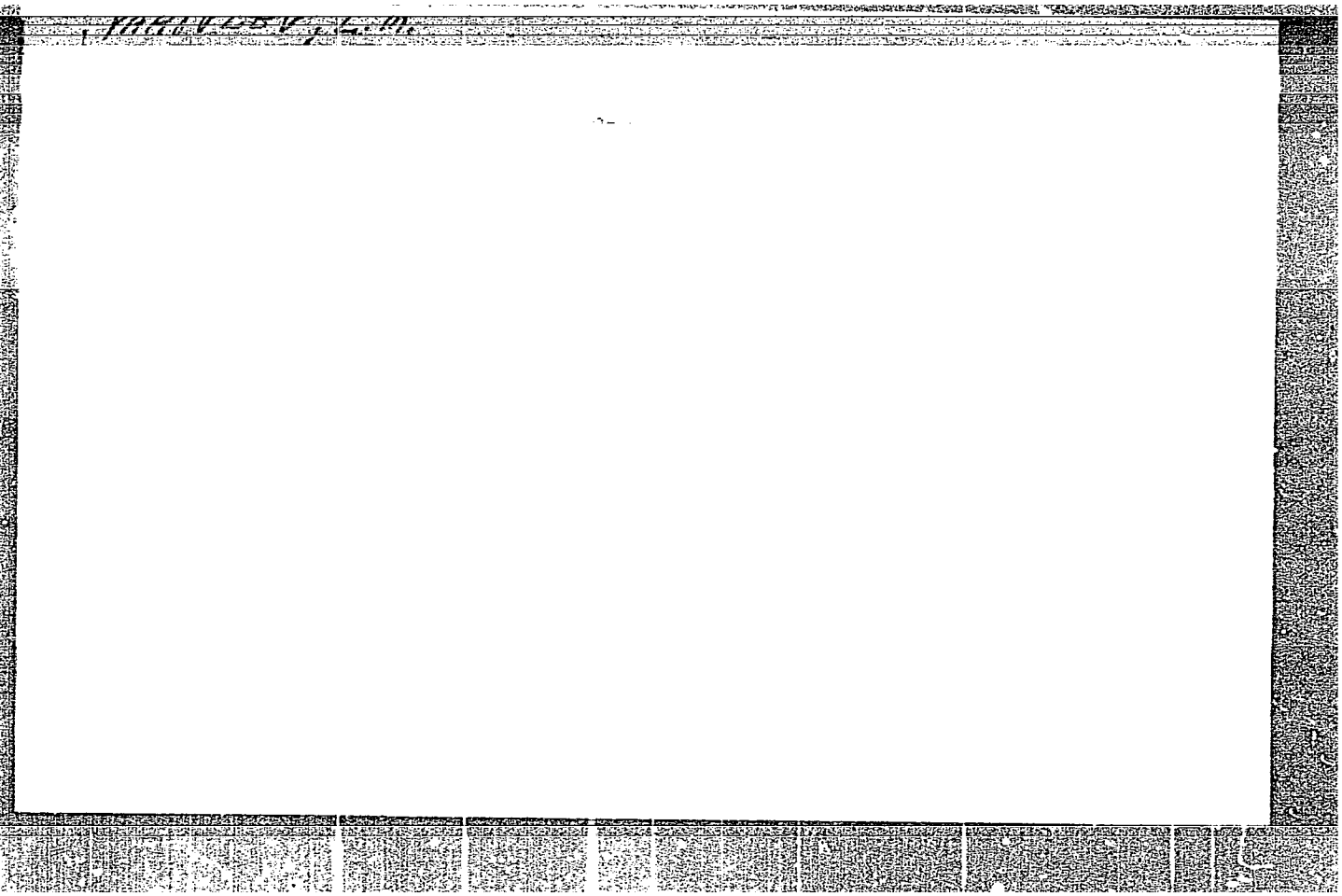
Strukulenko, on the staff of KhMI AOAN SSSR. [illegible] art. has: 4 figures and [illegible]

ASSOCIATION: None

SUBMITTED: 13Apr64 ENCL:00 SUB CODE: MT, IC

NO REF SOV: 004 OTHER: 005

Card 2/2



YAKOVLEV, Lev Mikhaylovich; MORGULIS, Yu.B., kandidat tekhnicheskikh nauk, retsenzent; ABRAMOVICH, A.D., inzhener, redaktor; MODEL', B.I., tekhnicheskiy redaktor

[Marine engines of small and medium power] Sudovye dvigateli maloi i srednei moshchnosti. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 446 p. (MLRA 10:8)
(Marine engines)

BIBISHEV, Aleksey Vasil'yevich; RABINOVICH, Zinoviy Yakovlevich; PRIBYLOVSKIY, A.M., inzh., retsenzent; ~~YAKOVLEV, I.M., inzh.~~, red.; SAVEL'YEV, Ye.Ya., red. izd-va; EL'KIND, V.D., tekhn.red.

[Electric equipment of gas engines] Elektrooborudovanie gazovykh dvigatelei. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 173 p. (MIRA 12:2)
(Gas and oil engines--Electric equipment)

GILINSKIY, I.A., kand.tekhn.nauk; CHERKASSKIY, A.Kh., kand.tekhn.nauk, retsenzent; MOSKVIN, M.V., inzh., retsenzent; KOZLOV, V.P., inzh., retsenzent; MASHKOV, G.F., inzh., retsenzent; YAKOVLEV, L.M., inzh., red.; NIKITIN, A.G., red.izd-va; EL'KIND, V.D., tekhn.red.

[Heat, hydraulic, and air engines of rural electric power stations] Toplovye, gidravlicheskie i vetrianye dvigateli sel'skikh elektrostantsii. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1958. 259 p. (MIRA 12:3)
(Air turbines) (Hydraulic turbines) (Electric motors)

YAKOVLEV, Lev Mikhaylovich; KOGAN, Arkadiy Solomonovich; CHULIN, N.I., spetsred.; AYNZAFT, Yu.S., red.; FORMALINA, Ye.A., tekhn. red.

[Operation and repair of fishing vessel diesels] Tekhnicheskaia ekspluatatsiia i remont dizelei rybopromyslovykh sudov. Moskva, Rybnoe khoziaistvo, 1962. 389 p. (MIRA 15:5)
(Marine diesel engines—Maintenance and repair)
(Trawls and trawling)

YAKOVLEV, L. N., Cand Tech Sci (diss) -- "Nonlinear distortions in large modulated structures caused by periodically repeating transitory processes". Leningrad, 1960. 17 pp (Min Communications USSR, Leningrad Electrotech Inst of Communications im Porf M. A. Bonch-Bruyevich), 240 copies (KL, No 15, 1960, 137)

82842

S/111/60/000/006/002/002
B019/B058

6,4500

AUTHORS: Khatskelevich, V. A., Docent, Candidate of Technical Sciences, Yakovlev, L. N., Engineer

TITLE: An Instrument for Measuring the Input Resistance of Broadcasting Antennas for Long and Medium Waves

PERIODICAL: Vestnik svyazi, 1960, No. 6, pp. 12 - 14

TEXT: An instrument is described here with which the reactive and active component of the internal resistance of an antenna-feeder device in the range of from 10 to 100 ohms may be determined. The wave range is between 200 and 2,000 m. It operates by the resonance method and consists of a generator, a power amplifier, a measuring circuit and 2 indicators. The block diagram is shown in Fig. 1, the detailed diagram in Fig. 2. The weak generator operates with an inductive feedback, the power amplifier is a cathode follower and the measuring circuit is connected with the power amplifier by a high-frequency transformer. The parasitic capacitances are the main cause of errors of measurement and their reduction through constructional measures is discussed. The measuring

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An Instrument for Measuring the Input Resistance of Broadcasting Antennas for Long and Medium Waves

S/111/60/000/006/002/002
B019/B058

circuit is provided with a resistance box and the authors discuss the construction in detail. The capacitance box is also described in detail. The voltage at the primary coil of the transformer and the tuning are measured by the 2 indicators. The rectifier circuit (Fig. 4) is discussed next, the measuring process is described finally, and some practical advice is given. A checkup in a laboratory produced satisfactory results. There are 5 figures.

ASSOCIATION: LEIS: V. A. Khatskelevich

Card 2/2

YAKOVLEV, L. N.,

"Nonlinear Distortion in Powerful Modulation Devices, Due to Periodically Repeated Transients." Dissertation for the Degree of Canidate of Sciences, Leningrad Electrotechnic Inst. of Communication im. M. A. Bonch-Bruyevich. Defense held ~~on 14 May 1959~~ 1959-60.

The work contains a theoretical and experimental investigation of the most widely used modulator circuit, that the filter coupling to the load, and also an investigation of the operation of this circuit in the presence of back-coupling. Linear distortions are considered here which have the greatest weight, due to periodically repeated transients in the plate cirucit of the output tubes of the modulator, which operate in class B. This investigation has made it possible to derive formulas for the calculation of the coefficient of nonlinear distortion in circuits with and without back-coupling, and also to conclude that the stray inductance of the half of the primary winding of the output transformer has the dominating role, as well as concerning the role and and magnitue of the resistance used to damp the circuti for the even harmonice, along with many other conclusions, which, in particular, make it possible to reduce the di dimensions and cost of the modulation transformer.

Izv Vysshikh ucheb. zaved. MViSSO SSSR po razdelu Radiotekhnika, vol. 6, No. 1, 1963 p. 98-102 (original checked--Cand. of Sciences as in original.)

USSR/Chemistry - Benzothiazole Derivatives Feb 52

"Derivatives of Dibenzothiazolylmethane," A. I. Kiprianov, L. P. Yakovlev, Yu. S. Rozum, Inst of Org Chem, Acad Sci Ukrainian SSR

"Zhur Obshch Khim" Vol XXII, No 2, pp 302-309

Condensation of o-aminothiophenol with esters of methyl-, ethyl-, n-propyl-, iso-propyl-, phenyl-, and dimethylmalonic acids yielded 6 new bases: dibenzothiazolylmethanes substituted in methane residue. Detd ultraviolet absorption curves of dibenzoyhiazolylmethane (I) and its 6 derivs, compared them with absorption curves of 2-(N-methylbenzothiazolydene-(2))-methylbenzothiazole. Showed

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that I and its mono derivs develop tautomerism in solns. Prepd 3 new monomethinethiazyanines contg alkyl as substituent at central C atom. Detd their absorption curves in alc solns and showed that mols of these dyestuffs exhibit spatial hindrances preventing coplanarity of thiazole rings.

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YAKOVLEV, L. P.

1. YAKOVLEV, L.S.

2. USSR (600)

"On Parameters, Characteristics, and Scale of the Distance Psychrometer." Trudy GGO, Issue 9, 1948 (25-29).

9. Meterologiya i Gidrologiya, No. 3, 1949.
[redacted] Report U-2551, 30 Oct 52

YAKOVLEV, L.S., kand. tekhn. nauk; GAVRILOVA, Ye.N., nauchn. red.

[Means for the overall mechanization of landing operations] Sredstva kompleksnoi mekhanizatsii reidovykh rabot. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi, tselliulozno-bumazhnoi, derevoobrabatyvaiushchei promyshlennosti i lesnomu khoziaistvu, 1963. 62 p. (MIRA 17:7)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (for Yakovlev).

POPOV, S.G., dotsent; YAKOVLEV, L.S., student

Lengthwise drawing of the yarn by the air flow. Tekst. prom. 23 no.9:82-86 S '63. (MIRA 16:10)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Textile machinery) (Aerodynamics)

YAKOVLEV, L.T.

Thermal stresses in concrete during its splicing to pavements. Trudy Un.drush.nar. 6 Stroi. no.1:18-26 '64.

Stresses in cellular concretes in autoclave treatment. Ibid.:63-78
(MIRA 18:10)

(A) L 12117-66 EWT(m) GS

ACC NR: AT6001769 SOURCE CODE: UR/0000/65/000/000/0138/0144

AUTHOR: Avakov, A. I.; Garysynov, K. E.; Yakovlev, L. T.

ORG: None

TITLE: Thermal stresses in porous concretes during hydrothermal treatment

SOURCE: AN BSSR. Institut teplo- i massoobmena. Voprosy nestatsionarnogo perenosa tepla i massy (Problems of nonstationary heat and mass transfer). Minsk, Nauka i tekhnika, 1965, 138-144

TOPIC TAGS: thermal stress, concrete, porosity

ABSTRACT: In porous concretes (materials with a low heat conductivity), hydrothermal treatment causes significant temperature gradients which can lead to the appearance of destructive stresses. The present article describes an attempt to derive analytically calculating formulas for determination of the temperatures and the thermal stresses associated with them, since these stresses can be decisive for determination of the desired rate of temperature change. In the general case, the temperature stresses at a moment of time, tau, can be expressed by the relationship:

$$\sigma(t, \tau) = f(t_\tau - t_0).$$

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For an analytical expression of the temperature stresses in terms of the values of the temperature, the time, and the flow coordinate, it is required to find:

$$\sigma = f_1(t),\ t = \varphi(\tau, x),\ \frac{a \cdot q}{\tau \cdot \varepsilon},\ \sigma = \psi(\tau, x).$$

The article considers an infinite slab with a thickness of 2R, and an initial temperature of the medium and the material, t_0; the average temperature, t_{av}, varies according to the equation $t_{av} = t_0 + b_{tau}$, and heat transfer obeys the convection law. The initial and boundary conditions are:

$$t(x, 0) = t_0,\quad \frac{\partial t(0, \tau)}{\partial x} = 0,$$

$$-\frac{\partial t(R, \tau)}{\partial x} + H[(t_0 + b\tau) - t(R, \tau)] = 0.$$

It is required to determine t(x, tau), that is, to solve the equation

$$\frac{\partial t}{\partial \tau} = a \frac{\partial^2 t}{\partial x^2}.$$

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The article proceeds to a mathematical development which is said to result in absolute values of the temperature stresses. Thus, during the period of heating of porous concretes, the elastic modulus and the temperature stresses are smaller than during the cooling period. During the cooling period, after the end of the chemical processes in the concrete, the elastic modulus is considerably increased and the thermal stresses are greater than during the heating period. Orig. art. has: 7 formulas and 2 figures.

SUB CODE: 11, 13/ SUBM DATE: 02Sep65/ ORIG REF: 002/ OTH REF: 001

Card 3/3

YAKOVLEV, L.V.

Volumetric apparatus. Izm. tekh. no.2:56-57 F '65.
(MIRA 18:6)

YAKOVLEV, L. Ya.

"Operation of the Khar'kov Telegraph Office," Vest. Svyazi, No.11, pp 19-21, 1953

Translation No. 420, 22 Jun 55

YAKOVLEV, L. Ya.

"Maintaining the Cultural Accommodations of the Population," Vest. Svyazi, no.3, pp 20-21, 1954.

Translation Trans.No.533, 6 Apr 56

YAKOVLEV, L. Ya.

USSR/Miscellaneous - Communications

Card 1/1 Pub. 133 - 10/24

Authors : Yakovlev, L. Ya.

Title : Reasons for telegraph malfunctions

Periodical : Vest. svyazi 6, 16-19, June 1954

Abstract : Notes and comments, of a communications inspector, on the failures of certain telegraph stations in carrying out normal performances are given. Various examples of total neglect in the maintenance of telegraph instruments are cited.

Institution : ...

Submitted : ...

Yakovlev, L. Ya.

USSR/Miscellaneous - Communications

Card 1/1 Pub. 133 - 17/23

Authors : Yakovlev, L. Ya.

Title : The technical level of supervisory personnel for rural communications organizations must be raised

Periodical : Vest. svyazi 8, 24-26, Aug 1954

Abstract : A survey was made of the communications operation in various sectors of the Saratov Region. Information is given on the number of radio-outlet points installed in new Kolkhozes radiofied during 1953-1954, and on the general program of work in the Saratov District for the period 1954-1958. Difficulties were experienced due to the inefficiency and inexperience of the supervisory personnel of the central communications offices. It was, therefore, proposed that special consideration be given to the training of managerial personnel, and also to improved coordination of work of the central offices and the local communication points.

Institution : ...

Submitted : ...

Translation - Sum. # 440, 10 Aug 55

YAKOVLEV, L. YA.

USSR/ Electricity - Telegraph station

Card 1/1 : Pub. 133 - 16/21

Authors : Yakovlev, L. Ya.

Title : Actual experiences at the Novosibirsk telegraph office

Periodical : Vest. svyazi 9, 27-28, Sep 1954

Abstract : Operational functions of the Novosibirsk telegraph office are described. The Novosibirsk telegraph office is considered the most important office which services all points of the Eastern Siberia and Far-Eastern provinces.

Institution : ...

Submitted : ...

YAKOVLEV, L.Ya.

Concern for an effective servicing of the population (City of Tambov telephone exchange). Vest.sviazi 14 no.3:20-21 Mr '54. (MLRA 7:5)
(Tambov--Telephone stations) (Telephone stations--Tambov)

YAKOVLEV, L.Ya.

Giving more attention to technical training. Vest.sviazi 14:26-27 Ja '54. (MLRA 7:5)

(Telephone--Employees) (Telegraph--Employees)

YAKOVLEV, L. YA.

USSR/Miscellaneous - Communications

Card 1/1 Pub. 133 - 13/19

Authors : Yakovlev, L. Ya.

Title : The utilization of local equipment reserves is a method in improving communications

Periodical : Vest. svyaz 4 (181), 25-27, Apr 1955

Abstract : The means of communication (radio, telephone, telegraph, and mail) are criticized. Some defects in the communication service, especially in small communities, are pointed out. The utilization of local equipment reserves is considered as an effective method in improving the service.

Institution : .....

Submitted : .....

YAKOLEV, L. Ya.

"From Operating Experience of the Novosibirsk Telegraph Office," Vest. Svyazi, No.9, pp 27-29, 1954.

Translation M-569, 28 Jun 55

YAKOVLEV, L.Ya.

Let us supply district communication offices with qualified technical management. Vest.sviazi 15 no.12:27-29 D '55. (MLRA 9:3)

(Telecommunication)